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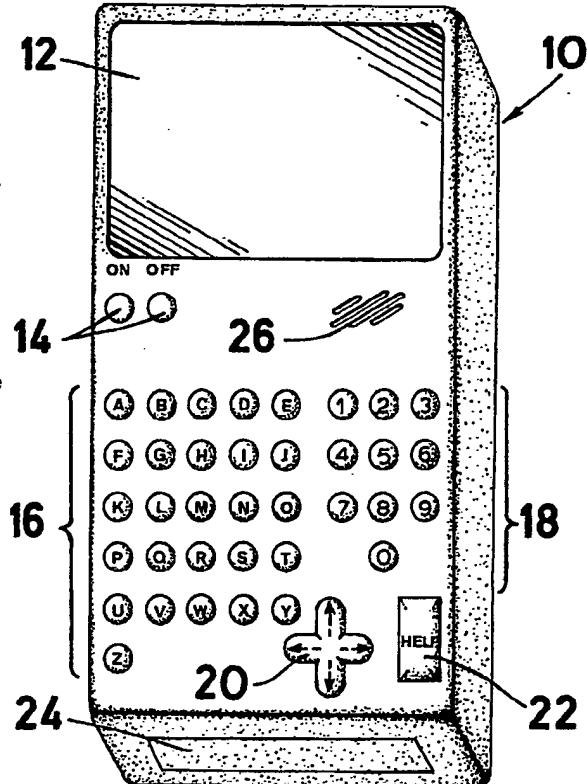
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(56) Documents Cited  
GB 2243302 A GB 2133293 A WO 90/03204 A1  
US 4142236 A

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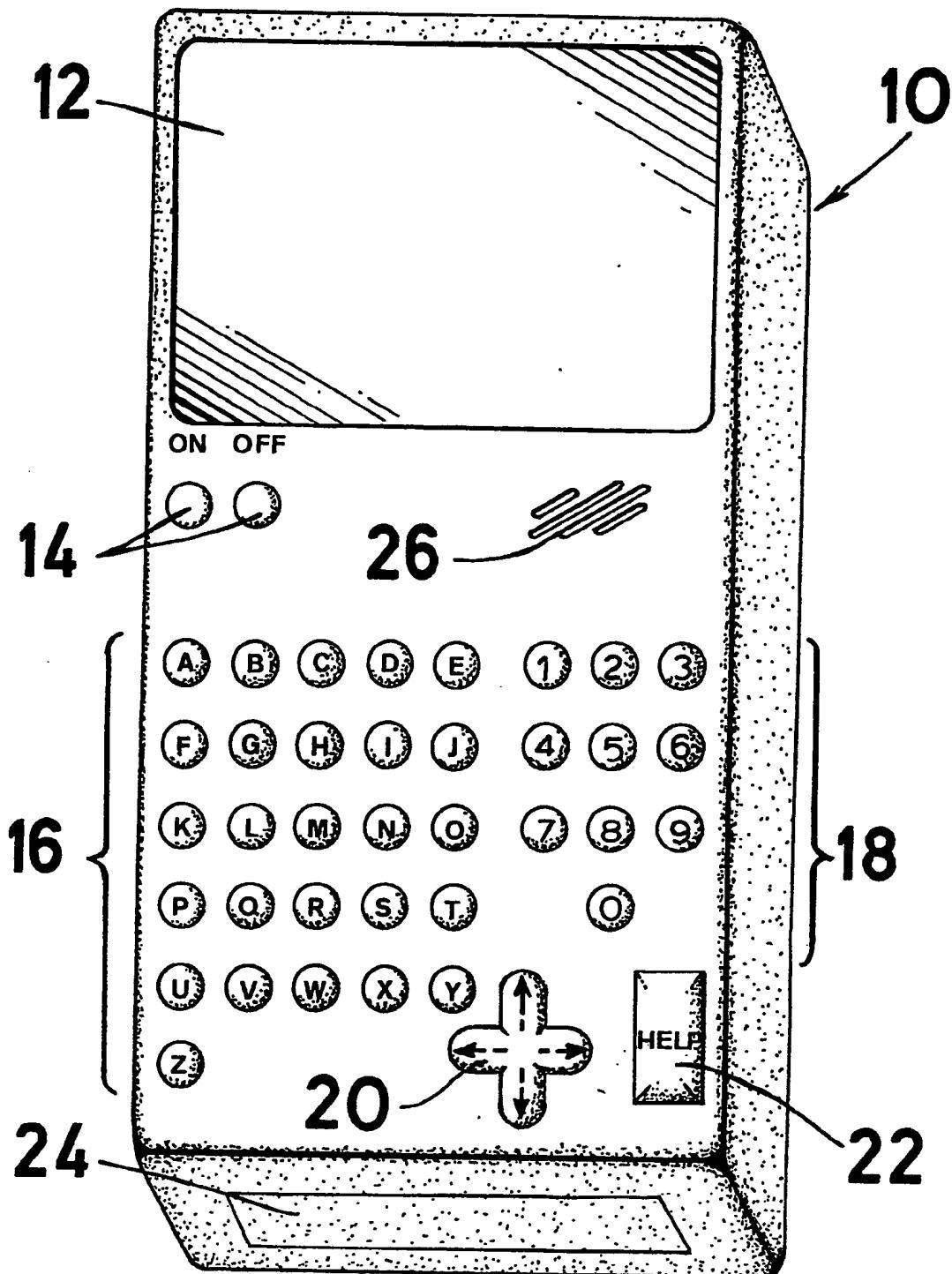
## (54) Golfing apparatus

(57) Golf scorekeeping apparatus 10 comprises portable computing means including a display 12, a keyboard 18 and a memory programmable with information relating to a particular golf course and into which scoring information can be entered via the keyboard 18 during the course of a game to display the status of the game as play progresses. The display may also present pictorial information concerning course layout and the like. Such information may be loaded into the memory via a floppy disk or by interfacing with a PC. Stroke index, distance and/or par information for each hole may be displayed and the apparatus may be programmable with player information for par calculation in bogey games. Scoring information can be downloaded from the apparatus for automated scorekeeping of an entire competition or other purposes. The apparatus may include a timer and an alarm arranged to warn of slow play.



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GOLFING APPARATUS

This invention relates to scorekeeping apparatus for use in playing the game of golf.

Although the rules for scoring in golf are relatively straightforward (see for example "Handbook of Golf" by Alex Hay, 1986, Pelham Books, Pages 181-185), it is easy to make mistakes when recording or calculating scores, especially if the person keeping score is unfamiliar with the particular course on which the game is being played.

The chances for error are reduced somewhat by the use of scorecards, upon which the number of strokes taken at each hole are recorded, and other relevant information concerning the course being played is pre-printed, e.g. the par and stroke index for each hole, notes on out-of-bounds areas and possibly a course diagram. Where the layout of a course is changed significantly, a new scorecard has to be printed.

In competition strokeplay games, the arithmetic to determine the winner or winning team is the responsibility of club officials, who are faced with the tedium of checking the scorecards. A player's handicap is determined from his performance during such competition games only, in which he will compete against other players, usually drawn at random. Hitherto it has not been practical to determine handicaps on the basis of all games played, including "friendlies" between habitual golfing partners.

In matchplay, bogey and Stableford Bogey games, the difficulty arises, particularly on unfamiliar courses, of determining those holes at which a stroke is to be given/received.

The present invention aims to mitigate some or all of

these problems and accordingly provides golf scorekeeping apparatus comprising portable computing means including a display, a keyboard and a memory programmable with information relating to a particular golf course and into which players scoring information can be entered via the keyboard during the course of a game, the apparatus being arranged to determine and present on the display the status of the game as play progresses.

Preferably, the golf course information can be downloaded to the memory in machine readable form from an external data source. When the apparatus is used at a different club, or a different course layout is used at a particular club, the appropriate course layout information can be downloaded into the memory, for example by loading a floppy disk or similar data carrier into the apparatus. Alternatively, the club may have a PC holding the necessary course information, and with which the apparatus may interface directly.

The golf course information may include course layout information which can be presented pictorially on the display. For example, tee position, fairway, green position, hole position, out-of-bounds areas, and hazards such as bunkers, mounds, trees and water may be shown.

Stroke index, distance and/or par information for each hole may be shown on the display. The apparatus may be programmable with player handicap information, with the display indicating for each hole of a matchplay bogey or Stableford Bogey game whether or not a stroke is to be given/received at that hole. The player handicap information may be updated and displayed following the result of the game.

A single scorekeeping apparatus may be used by each group of people playing the game (pair of singles, threesome, foursome or fourball group), with the scoring information of the entire group being entered in order to determine and

display the game status. Preferably however, several or each player in the group has their own scorekeeping apparatus, into which he enters the group scoring information independently. Advantageously each apparatus is then capable of downloading its players' scoring information to the others or to another computer (e.g. the club PC) for data verification purposes. This is equivalent to each player in the group checking and signing his opponent's scorecard. Where the computer or club PC contains records of players' handicaps, these may be updated using the downloaded information. If desired, a check could be made for any suspiciously large changes in handicap, so that the game result can be queried or rejected as necessary. To check that the downloaded information is valid for a particular player, he may be required to enter into the apparatus a password or personal identification code known only to himself and authorised club officials. The apparatus can thus confirm that he is an authorised user, and the identity of the person verifying the data can be established if need be. The downloaded scoring information can of course be used for other statistical purposes, such as revising the stroke indexes or standard scratch score for the particular course. Data verification can also be by way of a visual cross-check, or an automatic check as described above, between two or more scorekeeping apparatuses used during a given game, with the verifier required to enter his personal identification code to confirm that the data has been checked.

The apparatus may also include a timer arranged to operate an alarm, should a predetermined time elapse between information entry at one hole and the next. The group can thus be alerted to undue delays in play and can if necessary wave the next group of players through.

Further preferred features and advantages of the present invention are given in the following description made by way of example and with reference to the single figure of the drawings, which schematically shows an embodiment of a golf

scorekeeping device according to the present invention.

Referring to the drawing, the device 10 includes a liquid crystal display 12 capable of displaying graphical or pictorial information, as well as alphanumeric and other symbols. The device 10 is also provided with on/off keys 14, alphabet keys 16, numeric keys 18, a cursor shift key 20 and a help key 22.

A floppy disk drive 24 or similar data carrier read/write device is provided, for receiving floppy disks bearing the course information. Conveniently, appropriate disks will be available for each course. At the finish of the game, the floppy disk can be used to transfer players' scoring data to the club PC, for data verification, handicap updating, and other permanent record keeping and statistical purposes. Alternatively, the device 10 may be provided with a port for direct data transfer.

Upon switching on, prompts will appear on the display 12 for the players to enter the following information:-

Date

Game type, e.g. Stroke, Stableford, Matchplay, bogey

Tee colour

Number of players/team type, e.g. Singles, Foursomes, Fourball

Sex of each player

Initials or other identifier for each player, to be used when displaying scores/handicaps

Handicap of each player

Personal identification code of player (where appropriate)

The players will then be able to select the following options from a displayed menu:

- 1) Course information for each hole. This will include e.g. as further options

- a) Par and stroke index, distance, time allowance.
- b) Where appropriate, whether or not extra strokes are to be given to selected players (Stableford, matchplay, bogey).
- c) A pictorial display of the hole, including tee position, green position, hole position, out-of-bounds areas and hazards, such as dips, mounds, water, trees and bunkers.

2) Scoring information for holes played so far. For matchplay this might be, for each player

- actual number of strokes played at that hole
- nett number of strokes played at that hole
- Hole result (W, D, L)
- Aggregate of previous hole results.

For strokeplay the scoring information might be:

- par for that hole
- par aggregate of all holes played; and for each player:
- actual number of strokes played at that hole
- aggregate number of strokes played so far.

For Stableford Bogey the scoring information might be:-

- par for that hole; and for each player:-
- actual number of strokes played at that hole
- nett number of strokes played at that hole
- points scored for that hole
- aggregate of points scored so far.

For a bogey game, the scoring information might be:-

- par for that hole, and for each player:-
- actual number of strokes played at that hole
- nett number of strokes played at that hole

- hole result (W, D, L)
- aggregate of previous hole results.

3) Score information entry for current hole. When this option is selected, the time spent playing the current hole and time remaining may be displayed. Alternatively, this may be a separate option. For time display purposes, the scoring device is provided with a timer, activated at the start of play or selection of the data entry option. Once activated, the timer will continue to run no matter what option is selected. On completion of score information entry, the timer is reset. If more than a predetermined time is taken for information entry at each hole, the timer is used to activate an audible alarm 26. Scores may be entered as a running tally of strokes for each player, or single figure entered as each player completes the hole.

4) Current handicap/previous handicap for each player.

CLAIMS

1. Golf scorekeeping apparatus comprising portable computing means including a display, a keyboard and a memory programmable with information relating to a particular golf course and into which players' scoring information can be entered via the keyboard during the course of a game, the apparatus being arranged to determine and present on the display the status of the game as play progresses.
2. Golf scorekeeping apparatus as claimed in claim 1 wherein the golf course information can be downloaded to the memory in machine readable form from an external data source.
3. Golf scorekeeping apparatus as claimed in claim 1 or 2 wherein the golf course information includes course layout information which can be presented pictorially on the display.
4. Golf scorekeeping apparatus as claimed in claim 1, 2 or 3 wherein the golf course information includes stroke index information for each hole of the course.
5. Golf scorekeeping apparatus as claimed in claim 4, wherein the apparatus is programmable with player handicap information and the display indicates for each hole of a matchplay bogey or Stableford Bogey game whether or not a stroke is to be given/received at that hole.
6. Golf scorekeeping apparatus as claimed in claim 4 or 5 wherein the golf course information includes the par and/or distance for each hole of the course.
7. Golf scorekeeping apparatus as claimed in any preceding claim, wherein the apparatus is programmable with player handicap information which is updated and displayed following the result of the game.

8. Golf scorekeeping apparatus as claimed in any preceding claim, adapted to download the players' scoring information to a further golf scorekeeping apparatus as claimed in any preceding claim, or to a computer.

9. Golf scoring apparatus as claimed in any preceding claim, into which a player may enter a personal identification code known only to himself, whereby the validity of the scoring information may be verified.

10. Golf scoring apparatus as claimed in any preceding claim including a timer arranged to operate an alarm should a predetermined time elapse between information entry at one hole and the next succeeding hole.

Examiner's report to the Comptroller under  
Section 17 (The Search Report)

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## Relevant Technical fields

(i) UK CI (Edition K A6D (D7B)

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(ii) Int CI (Edition )

## Search Examiner

D WHITFIELD

## Databases (see over)

(i) UK Patent Office

(ii)

## Date of Search

19 OCTOBER 1992

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## Documents considered relevant following a search in respect of claims

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
X	GB 2243302 A (ENTECH) whole document	1-7
X	GB 2133293 A (CHEESEBROUGH) whole document	1-7
X	WO 90/03204 A1 (JENSEN) whole document	1-7
X	US 4142236 (MARTZ) whole document	1-7

**Category****Identity of document and relevant passages****- 10 -****Relevant  
to claim(s)****Categories of documents**

**X:** Document indicating lack of novelty or of inventive step.

**Y:** Document indicating lack of inventive step if combined with one or more other documents of the same category.

**A:** Document indicating technological background and/or state of the art.

**P:** Document published on or after the declared priority date but before the filing date of the present application.

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